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ABSTRACT

Reviewing accreditation standards and employer needs surveys emphasizing the importance of general skills for graduating occupational students, this paper describes the 5-year process utilized at Tacoma Community College, in Washington, to develop and implement a general education program for its occupational degree and technical certificate students. Following a brief introduction, local accreditation standards established in 1984 are discussed, highlighting the emphasis on general education in occupational and certificate programs. Next, results from surveys of employer needs are summarized, indicating that most employers consider basic academic skills, communication skills, and adaptive skills to be more important than specific technical skills. The first 2 years of the planning process are then described, reviewing the formation of a task force and the definition of the following six essential skill areas: communication, computation, leadership, human relations, critical thinking, and computer literacy. The next sections discuss outcomes for the third and fourth years, including the development of an implementation document based on faculty input which suggested a flexible approach to implementing general education requirements, as well as efforts to win approval for the plan. The final section describes the implementation of the requirements, indicating that program faculty have been pleased with results and students have enjoyed the flexibility in the curriculum. Contains 12 references. (ECC)

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STUDENT SUCCESS: IMPLEMENTING A COMPREHENSIVE GENERAL EDUCATION PROGRAM FOR OCCUPATIONAL STUDENTS

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STUDENT SUCCESS: IMPLEMENTING A COMPREHENSIVE GENERAL EDUCATION PROGRAM FOR OCCUPATIONAL STUDENTS

ABSTRACT:

Business and industry is demanding a highly trained workforce to increase productivity and quality. Tacoma Community College's general education program for occupational students closely matches national studies on the skills necessary for the success in the workforce. The college designed multiple approaches for students to gain skills in communication, computations, human relations, leadership, computer literacy, and critical thinking. This article will explore the five-year development process and the resulting program.

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Introduction

This article describes the process Tacoma Community College (TCC) used to modify the way students were prepared for technical occupations in a changing world and provide students avenues to increase work productivity and to grow on the job. TCC is a medium size urban institution enrolling approximately 6,500 students per quarter. About 40% of the college's instructional program is occupational or occupational support, concentrated in the allied health, business and office skills, and human services areas. The college offers 18 occupational degrees and seven certificate programs. Starting in the 1987-1988 academic year, the college entered into a five year process to develop and implement a new general education program for occupational/technical programs. The following manuscript will describe the regional accreditation requirements for general education/related instruction in occupational programs, review business and industry needs for trained employees, describe the four distinct steps in the development of a new general education program at TCC, and conclude with some comments and recommendations.

Regional Accreditation Requirements

In 1984 the accreditation standards of the Northwest Association of Schools and Colleges reemphasized the importance of general education for both academic and technical degrees. This emphasis was one of the motivating factors in TCC's effort to develop a viable general education program for occupational students. The Northwest Association's 1984 Accreditation Handbook (updated in 1988 and 1992) specified that all academic programs or transfer degree programs "...require a substantial and coherent component of general education" (p. 7). Occupational associate degree programs and all certificates of more than one year in length were required to have a core of "related instruction." Related instruction is the terminology the Northwest Association uses to designate the general education component of

occupational degrees and certificates. General education was described as that which "(I)ntroduces the student to the content and methodology of major areas of knowledge--the humanities, the fine arts, the natural sciences, and the social sciences and helps them to develop the mental skills that will make them more effective learners" (p. 97). The policy was designed to be qualitative rather than quantitative, stating that "(N)o formula for specific application or particular pattern of general education is endorsed" (p. 97).

Related instruction for occupational programs was defined in the 1984 Accreditation Handbook as follows:

> Specialized programs of study of one academic year or longer for which applied associate degrees or certificates are granted must contain a recognizable body of instruction in program related areas of communication, computation, human relations and leadership. Additional topics which should be covered as appropriate include safety, industrial safety, and environmental awareness. Instruction in the related instruction areas may either be embedded within the program curriculum or taught in blocks of specialized instruction. Each approach, however, must have clearly identified content that is pertinent to the general program of study (p.98).

While the handbook seemed to delineate between the requirement of a general education core for academic programs and related instruction for technical degrees, even that difference is blurred by the statement that "(T)he content of general education and related instruction for specialized degrees...should be comparable, though not necessarily identifiable to traditional academic offerings and should be taught by faculty who are clearly appropriately qualified" (p.97). The vagueness of these definitions prompted us to explore what the business community was saying that they needed for trained employees.

Business and Industry Needs

As a result of the changing nature of work, business and industry are demanding better trained employees. The changes are a result of expanding technology and the development of a global economy with world-wide competition demanding an emphasis on productivity and

quality. Flexible technologies will revolutionize corporate organizations in order to meet global standards of production. High performance work systems will drive autonomy and decision making down the production line.

In 1965, an automobile mechanic needed to understand about 5,000 pages of manuals to be effective. Now, an automobile technician needs to be able to decipher about 465,000 pages of technical text to do the same job (Dole, 1989, p. 1). The occupational half-life, defined as the time it takes for half of an employee's skills to be outdated, is steadily declining. Significant numbers of workers are already entering the workforce unprepared. More than 28% of firms with more than 10,000 employees were providing basic education for workers. One estimate is that business will soon be spending $25 billion on basic skills (Berger, 1989, p. D1). The ratio of 16-24 year old people in the population will drop by 2 million between 1990 and 2000 (Whelane, 1990, p. 22). Businesses already hire employees they would not have considered a few years ago. Many are cutting wages, exporting labor intensive processes offshore, or utilizing automation to remain productive. These factors are changing the way community and technical colleges train the American workforce.

There have been numerous surveys of business leaders on the skills necessary for success on the job, including the SCANS report (1991), Carnevale's ASTD/Department of Labor study (1990), and in Washington State, the Investment in Human Capital report (1990). What are the skills necessary for success on the job? The following list attempts to summarize:

communication skills
reading skills
human relation skills
computer skills
set goals
high levels of self-esteem
learn to learn
problem solving ability
computation skills
leadership
critical thinking skills
ability to self-motivate
negotiate
understanding organizational culture
group process skills
decision making skills

planning skills	interpersonal skills
knowledge of business and economics	quality control skills
computer literacy	cultural sensitivity
work ethic	safety and industrial hygiene
environmental awareness	responsibility
research and information technology	creative thinking

Most of the studies indicated that the need for basic academic skills, communication skills, and adaptive abilities as consistently more important than technical or job specific skills which business leaders say can be learned on the job. Many of the skills listed above were associated with professional, white collar, and more educated workers. However, the workplace is moving from mass production, long production runs, centralized authority, and job specialization to flexible production, customized production or delivery of service, decentralized control, and multi-talented work teams. Most workers will need some combination of the listed skills, especially as investment in human resources becomes more important for the prosperity of the nation.

Colleges often have a different perspective regarding general education and work skills, using phrases like appreciate what is significant about human life, appreciate the variety of human purpose or make judgements reflective of human values, or an appreciation of what human beings hold in common which encourages a sense of civic purpose (National Council for Occupational Education & The Community College Humanities Association, 1988, pp. 6-8). General education for TCC academic programs was defined as:

> ...a body of knowledge essential to anyone who can be expected to function capably in a society in a humane manner--an individual imbued with an egalitarian spirit, who can reason clearly, communicate effectively, think critically, and who is able to identify and achieve significant personal as well as social goals (TCC, 1980, p.1).

Our challenge was formidable. Our programs were designed to be completed in two years or less. During this two years, there was a need to incorporate skills that would fulfill what the

private sector regard as important for a trained worker, knowledge our humanities, natural sciences, and social sciences faculty insisted was important, requirements our accreditation and state agencies legislated as important, and to provide students technical skills. There was also a need to overcome the fear and hesitancy of occupational faculty who were concerned about loss of students and control of curriculum. Many faculty questioned the capacity to define and measure in competency terms acquisition of skills in such things as self-esteem or critical thinking. All of these issues prompted TCC to take a distinct approach in the development of a general education program for occupational programs.

TCC's Approach--First and Second Years

Many colleges, when faced with the task of incorporating related instruction into occupational curriculum, reviewed their course banks, identified courses that would meet the accreditation requirements of regional, national, or state agencies and quickly incorporated these courses into their applied degrees. Some colleges custom designed courses to meet the requirements and others tried to embed skills in occupational courses and experienced difficulty with documentation or faculty qualifications. For a variety of reasons, TCC took a unconventional approach. The college had a high concentration of allied health and professional/technical programs. The college had a strong academic and transfer tradition and had spent years discussing and studying general education for the liberal arts program. The college also had a history of collaboration and the desire of occupational faculty was to approach related instruction in an open environment and to design a program with as much flexibility as possible.

We decided to first determine what we thought our students should know when they completed TCC occupational programs. We also decided that we were not going to spend the next fifteen years arguing about cognitive habits of expression, content v. process, skills v.

appreciation, right brain/left brain learning styles, etc., like our colleagues in humanities and social sciences. The Related Instruction Task Force began its work in Fall, 1987. The committee was comprised of occupational instructors/program coordinators with skills in the major related instruction requirements areas--the accounting program coordinator for computation, the business administration coordinator for leadership, the human service coordinator for human relations, and the medical secretary coordinator for communications. The Chair of the Humanities Division, a nursing faculty member, and the Vocational Dean completed the task force.

The task force spent considerable time researching and developing competency based "benchmark statements" in the following skill areas: communication, computation, leadership, and human relations. The statements were based on the college's existing general education work, work from other campuses, and our own thoughts on the skills our students would need in the workplace. The following examples provide a sense of the nature of the benchmark statements:

Communication

Degree candidates should be able to vary their use of language through the...use of concrete and abstract words....write grammatically correct sentences that depart from basic subject-predicate pattern...write developing an idea.

Should express the content of spoken messages in language that will be readily and correctly understood by the listener.

Should interpret the meaning of what they read, including the implicit as well as the explicit meaning of words....

Computation

Degree candidates should calculate estimates of area, quantity, length, weight, volume.

Should be able to calculate and interpret the common measures of central tendency.

Human Relations

Degree candidates should possess a basic knowledge of individual differences and how to cope with them.

Should demonstrate the ability to become an effective member of a group

Leadership

Degree candidates should define goals, identify ways to attain goals, analyze time constraints, and prioritize activities

Should implement problem solving techniques and resolve problems and conflicts.

The preparation of the benchmark statements represented two years of discussions, research, arguments, and finally, agreement. When completed, the task force felt that it had a practical list of workplace competencies. If our graduates met the described competencies they would indeed be ready for the workplace. However, we were concerned over the use of the word "competencies." How were we going to measure these competencies in an environment of outcomes assessment? How were these competencies related to coursework? In other words, how were we going to incorporate these competencies into our program curricula?

Third Year--Implementation Document

With a goal of allowing program flexibility, program autonomy, and university transferability of as many occupational program credit requirements as possible, the task force's role during the third year was to develop an implementation procedure for the benchmark statements. The group utilized much of the first part of the third year meeting with other college faculty, including occupational faculty, English, math, and speech instructors, and the instructor of a newly developed critical thinking course. Benchmark statements were compared to the objectives and content of existing college courses. Although time consuming, this was an extremely beneficial and satisfying process--enjoyed by both the task force and faculty who shared their course materials. This was one of the few occasions in recent times for cross discipline discussion on our campus. There were a number of surprises. Many of the task

force members' assumptions about the content of the college's courses were not accurate. General faculty also came away with a better understanding of occupational programs.

The task force made two important decisions as a result of meeting with academic faculty: 1) to add critical thinking as a required skill area; and 2) to separate computer skills from the computational skill area. These were substantial changes from the original charge of the task force and from the basic requirements of the regional accreditation agency. These decisions reflected the importance of meeting with faculty with expertise in the various content areas and reassessing the project based on their input. The task force also gathered written information on a variety of college courses, an essential step for making decisions about ways to implement the related instruction program.

The task force decided that a brief statement summarizing the intent of the benchmark statements would be helpful. Each of the areas, expanded to six with the addition of critical thinking and computer literacy, was provided a concise statement of explanation. As an example, communication was defined as

> the ability to develop, conceptualize and present an idea in sufficient detail to achieve clarity and purpose., This would be exhibited through grammatically correct sentences and appropriately spoken messages. Communication also includes the ability to effectively listen, to read, and to comprehend (Related Instruction Task Force, 1991, p. 2) .

The task force also reinforced a desire to provide program faculty as much autonomy and flexibility as possible in implementing the related instruction requirements while still assuring that the goals of the related instruction program would remain intact. Therefore, a variety of options were provided. For some of the skill areas students were required to take coursework. To satisfy the communication requirement, students must take Freshmen Composition or Business English as well as Fundamentals of Speech Communication. These were all established college courses.

Other skills, such as reading and computations, could be documented either by completion of specified courses or through the college's assessment procedure for new students. Students who did not assess at a certain level were required to take courses. Students were also able to challenge courses through the college's normal course challenge process that would meet related instruction requirements. In the computer literacy area, faculty developed individualized assessment or evaluation processes to verify student skills and knowledge. Occupational programs could establish course prerequisites, especially in the English and math areas, in order to meet related instruction. Students were not admitted into the program until completion of the prerequisites.

Some skills were embedded in one or more occupational program courses. Embedding was utilized by occupational program faculty primarily in the leadership, human relations, and critical thinking areas. If program faculty chose embedding, course objectives needed to clearly demonstrate how the benchmark statements were achieved. Finally, the college revised one course specifically to meet related instruction requirements in the leadership, human relations, and critical thinking area. The course, Leadership and Human Relations, was reworked with the assistance of one of the college's academic faculty with expertise in critical thinking. About half of the college's programs utilize this course to meet related instruction requirements.

Fourth Year

Although the task force had communicated systematically and often with other occupational faculty during the first three years of the project, the fourth year was devoted to sharing and selling the program to the campus community at large. As the college was predominantly an academic and transfer campus, this was no easy feat, especially as the chief academic officer was a former English and literature instructor. The initial strategy for

selling the program was to convince occupational faculty of the value of the task force's approach. Because some form of related instruction was inevitable as a result of the regional accreditation requirements, convincing occupational faculty of the benefits of a flexible approach was relatively easy, although some allied health programs with high credit loads were skeptical and nervous about implementation. Once occupational faculty were in support of the program, the task force shared or asked for approval of the benchmark statements and implementation document with the various college's committees and constituent groups. Most of these groups were asked to comment and provide suggestions, using the strategy that the task force had the authority to implement related instruction in occupational programs. The instructional council, however, was the one group charged with providing advice to the chief academic officer on instructional policy issues. This group recommended approval of the related instruction program. After considerable discussion on the merits of including the section on "general education" in the related instruction program, the Vice President of Instruction approved the program without a general education component.

Fifth Year--Implementation

Selling the program to non-vocational faculty and instructional administrators was eased by taking an approach that related instruction was basically an occupational program issue. We had consulted with academic faculty throughout the development process, thus there were no surprises. During the 1991-92 academic year, the faculty as a whole voted to approve the new related instruction requirements. By this point in the process the difficult part was over. Benchmark statements for critical thinking were prepared early in the year and a list of courses was approved for meeting the computer literacy requirement. The benchmark statements had been retained, yet a workable document had been developed which clarified and condensed the competencies and allowed them to be applied to individual programs.

Each occupational program was reviewed by program faculty and advisory committees for related instruction components. As the task force had consistently kept program faculty advised on the progress of the project, the related instruction requirements did not come as a surprise. Many of the programs had already incorporated all or part of the requirements in their normal ongoing curriculum review process. Program faculty had a variety of approaches to choose from in meeting the requirements. Some allied health programs and the Human Service program chose to embed the related instruction requirements in existing courses. Programs that utilized embedding provided detailed course outlines, course syllabi, tests or other assessment instruments, textbooks, etc., to verify embedding. These materials were reviewed by the topical specialists on the task force. By the end of the 1991-92 academic year, every program had revised curriculum meeting the related instruction requirements. A matrix was prepared that identified either the course or the method each program used to satisfy the six concentration areas. In addition, an implementation document with benchmark statements in communication, computation, and human relations was prepared for certificate programs of more than 40 quarter credits in length. All certificate programs were modified as well to meet these requirements.

Conclusion

In a recent partnership report between the National Association of Manufacturers and the U.S. Department of Labor (1992), CEOs of manufacturing firms agreed the "... U.S. manufacturers are changing, but perhaps at half the speed necessary to remain competitive" (p. 1). Communication and people skills, empowerment of front-line workers, and a commitment to quality were cited as abilities needed by workers to achieve substantial improvements in high performance work systems. The college's work predated this report, the SCANS report, and Carnevale's ASTD/Department of Labor study, yet by carefully

crafting a process to write benchmark statements, the skills required for completion of TCC's applied science degrees are remarkably close to these studies and other efforts designed to describe the skills necessary for job success. Grubb and Kraskouskas (1992) provided eight models on integrating occupational and academic education (pp. 6-7). Tacoma Community College's related instruction program utilizes five of the models: 1) general education requirements, 2) applied academic courses, 3) cross-curricular efforts incorporating academic skills in occupational programs, 4) incorporating academic modules in expanded occupational courses, and 5) tandem and cluster courses and learning communities. In addition, TCC's related instruction program allows students the option to utilize prior skill acquisition to meet the requirements through program prerequisites, testing and assessment, and course challenges.

The occupational faculty and program advisories are pleased with the results of the related instruction requirements and students enjoy the choices they have in the curriculum. Each of our graduates leaves their programs with the adaptive and worklife skills necessary for success in the workplace. The most recent study of the college's occupational and technical degree graduates demonstrated an average annual salary of $30,303. The process promoted increased collaboration between occupational faculty, occupational faculty and program advisory committees, and occupational and academic faculty. The process also raised the awareness of the nature, standards, and successes of occupational programs throughout the college. The curriculum revision process validated the training provided by programs while enhancing the integration of academic and occupational programs throughout the college. The related instruction program uses both traditional general education courses as well as applied academics courses. The traditional general education distribution courses meet the needs of many occupational students who want to transfer to four-year schools. Another

result of the project was the exploration of coordinated studies or learning communities, including a noteworthy combination of an introductory business courses and an English writing courses.

Providing students avenues to increase their work productivity and to grow on the job was the goal of the related instruction program. After five years of hard work, the college achieved this goal and laid the foundation for preparing workers in the 21st century. The challenges of determining workplace competencies, gaining faculty and administrative support, and revising the curriculum were formidable, however, the resulting curriculum and foundation for future change and the sense of ownership, team building, and participation provided benefits that exceeded our expectations.

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